

# Notes on Some South African Lepidoptera

By J. S. TAYLOR

For a number of years the writer has recorded observations on South African Lepidoptera with particular reference to the Eastern Cape Province (Taylor, 1949, 1951, 1954, 1957, 1965). While in some cases the following notes are supplementary to those published earlier, they are largely the result of observations carried in Natal since he left the Eastern Cape in 1965.

The writer's thanks are due to Drs. E. C. G. Pinhey and L. Vari for naming Lepidoptera; to Miss G. V. Britten and Dr. O. M. Hilliard for naming plant material; to Mr. C. G. C. Dickson for his constant interest and encouragement, as well as supplying insect material and data; and to Mr. A. N. Wykemam for the photographic illustrations.

## SYNTOMIDAE

*Metarctia metus* Stoll.

Adult males were noted at light at Hilton, Natal, during January; the female is incapable of flight, having vestigial wings. In the Eastern Cape this species was found commonly, and the gregarious larva was a grass-feeder (Taylor, 1949); Platt (1921) recorded the larva on *Trema bracteolata* Blume. At Hilton, larvae were found singly and fed on *Senecio pterophorus* D.C. Larvae found in May did not pupate until the following January.

The full-grown larva measures some 70 mm. in length. It has a greasy appearance and is covered with long black and highly irritant hairs which emanate from black verrucae on a reddish-brown integument. Low down laterally the reddish-brown colour is more intensified, while ventrally the integument has a greenish tinge. The larva is very active.

The cocoon, which is constructed under debris, etc., or in holes in the ground, is flimsy and consists of larval hairs woven together with brown silk. It is oval in shape.

## ARCTIIDAE

*Siccia caffra* Walk.

Taylor (1965) gave an account of this species in the Eastern Cape where the larva sometimes causes a nuisance, swarms over the walls of porches and verandahs seeking pupation quarters. No host plant was then known. This arctiid was of common occurrence at Hilton, and although the larva was often seen on walls no host-plant was found. The adult was frequently noted at light during the summer.

*Dionychopus similis* Mschl.

The larva of this species was found feeding on the leaves of cultivated dahlias and also on *Senecio pterophorus* at Hilton. The full-grown larva measures some 45 mm. in length. It is black with transverse rows of light-coloured verrucae. These have black spots or specks from which emanate outward-spreading chestnut hairs. The head is dark brown and the legs, prolegs and stigmata are red. The winter is spent in the pupal stage, and the adult was seen at light during the summer. In 1953,

observations were made on a pair of *D. similis* at Fort Beaufort in the Eastern Cape Province. Both male and female emerged on September 18, and were found in copula early on September 19, but separated immediately on being touched. On September 20, a batch of 360 eggs was found. The pair was in copula again on the morning of the Sept. 21 and remained thus for most of the day. By the morning of Sept. 22 the pair had separated, and four batches of eggs, totalling in all 462, were found. Egg-laying continued until Sept. 25, the total number deposited being 932. The male died on Sept. 26, the female on Sept. 29, the duration of the adult period being 8 and 11 days respectively. The egg is round, creamy white, with a finely reticulated surface, and measures slightly less than 1 mm. in diameter. It is deposited in rows in clusters of varying number, up to 200 or more. The incubation period occupied 10 days in September-October. These notes on the egg and adult were not published at the time, further attempts at rearing being unsuccessful.

*Spilosoma lutescens* Walk.

This species was of common occurrence at Hilton. The adult was often present at light during the summer, while the larva, which would seem to be a general feeder, was found on a variety of plants including *Vigna* sp. It readily accepted and thrived on the foliage of wattle *Acacia molissima* Willd., and Hepburn (1967) records it as an occasional pest of this tree. Platt (*op. cit.*) recorded it on *Solanum seaforthianum* Andr. and *Cassia tomentosa* L.

The larva is hairy, the hairs being mainly black, but with longer grey hairs intermingled. The hairs emanate from black verrucae arranged in transverse rows or ridges. The white integument is blotched or streaked with a faint bluish tinge laterally, while dorsally these markings show as streaks between the segments. The length of the larva is some 45 mm. Pupal periods of 25 to 27 days were obtained in January-February.

*Cyana pretoriae* Dist.

The larva of this species was found in clusters on the roof of a road tunnel under the railway at Hilton during the period December-February and also walking about in gardens. Despite constant search in the vicinity of the tunnel and elsewhere, the host-plant was never found. Although many of the larvae clustering in the tunnel were full-grown and ready for pupation, numerous individuals of younger instars occurred among them, and all attempts at rearing these younger larvae failed, in spite of a great variety of plants offered to them.

Pupation took place on the walls of the tunnel, the clusters of cocoons resembling those of the larvae. The larva is some 26 mm. in length, and is greyish to blackish-brown. It is densely covered with long grey hairs which curve over the body. The ventral surface is hairless and is tinged with olive. The fragile silken cocoon is coated with larval hairs, these projecting forwards and upwards, thus causing the cocoon to resemble the larva. The pupa is light brown and shiny. The duration of the pupal period is 20 to 21 days in mid-summer and emergence continued until March. An earlier generation emerges in the

spring. The adult was often noted at light during the summer. Both male and female are figured on Plate VIII, Fig. 11.

#### THYATIRIDAE

*Aethiopsesestis austrina nebulosa* Watson.

This recently described species was reared from the larva found feeding on the foliage of *Royena pubescens* Willd. and *Euclea undulata* Thb., at Highlands, near Grahamstown, C.P., in June 1947 (Taylor, 1965, 2).

#### NOCTUIDAE

*Heliothis scutigera* Guen.

The larva of this species was recorded at Hilton feeding on the buds and flowers of *Helichrysum cooperi* Harv.

*Polia speyeri* Feld.

The larva was found during December and January feeding on the flowering-heads of *Hypochoeris radicata* L., a very common plant, at Hilton. Platt (*op. cit.*) records it on *Rhoicissus cirrniflora* G. & B., *Vigna* sp., and *Gerbera jamesoni* Bolus.

The larva is yellowish-green, and is liberally sprinkled with white and black spots. A median dorsal line consists of small white spots, while there is a subdorsal line of larger and enamel-like black and white spots. The stigmata are enamel white and are surrounded by red which in its turn is surrounded or margined by white. These red patches occur also on the thorax, but are darker there, almost black in fact. The integument is smooth, but there is much subdued speckling, mainly white but with some black as well. The ventral surface is also faintly speckled with white. The head and legs are pale green. The length is some 48 mm. Pupation takes place in a fragile earthen cocoon in the soil. The pupa is of the typical noctuid form. The pupal period has varied from 34 to 65 days (December-March).

#### LYMANTRIIDAE

*Psalis pennatula* (Fabr.)

The larva, which is hairy and black and yellow in appearance, is of common occurrence at Hilton, and feeds on veld grasses. It has a broad and black median dorsal line with lateral and downward extensions as fine lines between the segments to a darker, streaked and broad lateral area. There is a pair of long and forward-projecting tufts of dark hairs on the first thoracic segment and a fused pair of backward-projecting tufts on the last abdominal segment. There are also dense but not long tufts on the third thoracic and first abdominal segments. The osmeteria are yellow, and the length of the larva is 35 mm.

The elongate silken cocoon is also often found on grass stems and the adult has been recorded at light.

*Lymantria modesta* Walk.

Host-plant: *Rhus pyroides* Burch. Hilton Platt (*op. cit.*) records it on *Rhus villosa* L.f. and on *Sclerocarya caffra* Sond.

The larva was beaten from the host bushes during the winter. It has a greyish-brown appearance and is lightly clad with hairs. The pinkish



surface is finely streaked or stippled with fine black lines. There are paired whiteish tubercles on the first four abdominal segments and whiteish markings laterally but above the lateral line area which is darker than the remainder of the body. There is a prominent and forward-projecting tuft of black hairs on the first thoracic segment immediately behind the head which is large, pink, and with thick black fascia on either side. The legs and prolegs are pink, the latter being particularly prominent and with large black patches between them. The osmeteria are whiteish, and the ventral surface is hairless. The length is 35 mm.

The pupa, which is formed in a loose cocoon among leaves of the host-plant, is light greyish-brown, with darker speckling, and has tufts of hairs on the anterior of the thorax and on the abdomen. There is a long cremaster, and the total length of the pupa is some 18 mm. The pupal period varied from 23 to 65 days (June to September).

*Euproctis iridescens* Janse.

Host-plants: *Acacia molissima* (Wattle) *Plantanus* sp. (Plane), a general feeder being found on almost any plant. Hilton.

A very common species; the larva is densely covered with black hairs which completely hide the integument, and there are also tufts of grey to white hairs. The first two thoracic segments bear tufts of dense whitehairs situated dorsally, and the third segment has a dense tuft of black hairs. The abdominal segments have tufts of grey hairs but on the last the hairs are black. There are also lateral tufts, white on the thorax, grey on the abdomen. The forward-projecting tufts on the first thoracic segment are mainly black. The thoracic legs, antennae and mouth-parts are yellow, the prolegs deep pink. The length is some 26 mm. Pupation takes place in a loose cocoon under debris, etc., and the pupal period occupies some 32 days (December-January).

*Cymaroa leptopepla* Hmps. (Plate VIII, Figs. 1-10).

Host-plant: *mesembryanthemum* (Ficoideae); Cape Town.

The larva is greyish-black in appearance. There are dorsal transverse rows of verrucae bearing tufts of black and grey hairs, and a dorsal line of shorter grey hairs. The tufts on the thorax are less dense and more black, and a whiteish dorsal line shows on the abdomen, while the osmeteria are pale yellow. There is a broad, wavy and irregular lateral line, pale orange in colour. The head is black. The ventral surface is hairless and has a greenish tinge. The length is some 25 mm.

The adult female is apterous and the eggs are deposited in the flimsy silken cocoon constructed on or near the host-plant. Emergence takes place in two to three weeks. Mr. C. G. C. Dickson has kindly contributed the following notes on the species which are quoted in full. "Larvae of this moth were first noticed on mesembrianthemum plants in my garden in Cape Town in the summer of 1965-66. They had never been seen here before and, considering that the female moths are wingless and do not leave their cocoon, one cannot account for the sudden appearance of the species in this way, in a spot which is nowhere near any breeding ground of this moth.

"The larvae matured fairly rapidly and cocoons were constructed on

or near the plants, in some cases in the angles formed by bricks which projected slightly from the wall of the house and close to which the plants were growing. Male moths were observed flying in the garden from about April onwards. They were on the wing during the daytime, but no more than two or three specimens were ever seen on the one occasion. They were active when the sun was shining, and were only found at rest if really dull weather prevailed. Specimens were seen in the same way during the following summer but they were not noticed in greater numbers than when they were seen on sunny days during the winter or spring. The flight was erratic but sustained and individual specimens remained as a rule in the same part of the garden for a considerable time. The moths were rather conspicuous for their size when on the wing, with the yellowish colouring accentuated by the sunshine.

"It was found subsequently that the larvae increased and decreased in numbers spasmodically. They had become extremely numerous rather more than a year after they were first observed in the garden but by the spring of 1967 (about August to October) their numbers had diminished greatly, probably due to parasitic attack—especially, it is believed, during the first half of the summer of 1967-1968 and at the time of writing (January 1968), the mesembrianthemum plants seem to be entirely free of them. When the infestation was at its height some of the plants, even the large ones, were virtually destroyed through defoliation by these larvae.

"This moth has been noticed at times in flight on the mountain slopes of the Cape Peninsula. One specimen in my collection was taken on Table Mountain on 27 January 1933. Even in its usual habitat it has never been observed in numbers, in the adult state."

From larval material received from Cape Town, a species of Tachinidae was obtained. The larva appeared to be very susceptible to some form of wilt.

#### SPHINGIDAE

*Macroglossum trochilus* Hbn. (Humming Bird Hawkmoth)

Host-plant: *Rubia cordifolia* L. Hilton Platt (*op. cit.*) likewise records it on this plant, also Pinhey (1962) and on *Galium*.

The larva is light yellowish-green, the surface being finely speckled with yellow. There is a double median dorsal line, and a narrow lateral line, both yellow in colour. The long and slender anal horn has a blackish tinge, due to dark and pimple-like incrustations. The larva measures 52 mm. in length. The pupal period occupies some three weeks in summer. The adult is to be seen at flowers during the day, and at light at night.

#### GEOMETRIDAE

*Rhodometra sacraria* L. (The Vestal)

Although this well-known immigrant species in Britain is of common occurrence in South Africa, at flowers during the day as well as at light, especially during seasons of activity by other migratory species of Lepidoptera, nothing appears to have been recorded of its larval habits or host-plants there. South (1908) mentions knotgrass and dock as hosts in Europe. At Wilderness, C.P., in the autumn of 1965, the writer confined some adults in a jar with the leaves of *Rumex* sp. Larvae were

subsequently obtained and readily accepted the leaves of the species of dock provided. They appeared to thrive, but unfortunately all died before reaching the pupal stage. They were then 25 mm. in length. The larva is light-grey and twig-like (younger specimens are brown), the surface is lined and streaked, also ridged; there is a prominent lateral ridge. Ventrally it is lighter in colour, and the body tapers towards the head which is tinged with pink. If disturbed, the larva drops readily and lies in a curled or twisted position, resembling a twisted stalk or twig. It does not appear to have been recorded in the field in South Africa.

*Boarmia complacita* Prout

Host-plant: cultivated *Gardenia*: Hilton.

*Semiothisa simplicita* Warr.

Host-plant: *Acacia molissima*: Hilton.

The adult was often seen in wattle plantations, and also at light. The species has been recorded as a minor pest of wattle. (Hepburn, 1967).

### SATURNIIDAE

*Nudaurelia walhbergi* Boisd.

Host-plants: *Styraciflua* or "Liquid Amber": Hilton. Platt (*op cit.*) records it on *Trema bracteolata* Blume., *Ricinus communis* L., *Psidium* sp. (guava) and *Magnifera indica* L., (Mango). Hepburn (*op. cit.*) records it on *Acacia molissima* (wattle).

The full-grown larva is some 85 mm. in length. It is black with transverse rows of scarlet scoli bearing short white hairs. There are yellow markings situated subdorsally on the abdominal segments. The white stigmata are prominent, and the head and legs are black. When young the larvae live gregariously in clusters. Pupation takes place in a fragile earthen cell in the soil and within the larval skin.

The adult has been recorded at light at Hilton in January.

*Urota sinope* Westwood

Host-plant: *Erythrina lysistemon* Hutch. Charter's Creek, Zululand; Umhlanga Rocks, Natal.

On 20 August 1966, 18 larvae were found on or near a small tree 10 to 12 feet in height. The tree had been completely defoliated, and the larvae were searching for food, some being on the ground, or on low-growing plants, grasses, etc. The tree concerned was one of a row of the same species, planted some 20 to 30 feet apart alongside a road. None of the other trees was affected. The larvae were collected and supplied with leaves of *Erythrina*. They commenced to seek pupation on August 23 and all had entered the soil by August 28. Emergence commenced on October 27 and was completed by November 3. The pupal period varied from 64 to 70 days. When the soil was later examined, little sign of a cocoon was found; if a cocoon exists, it must be a very flimsy earthen cell. Larvae were later obtained from Umhlanga Rocks, Natal North Coast, by Mrs. N. Gardiner. These entered the soil on 12 November.

The larva is greenish-yellow; the segments are humped or ridged, the second and third thoracic segments more so than the others. All these ridges have yellow tubercles bearing short white hairs. The inter-



segmental divisions are prominently marked with double lines of jet black. The ventral surface is greener with black markings or patches situated laterally on the third thoracic and first abdominal segments. The head and thoracic legs are black. The length of the larva is 55 mm.

Some infertile eggs were obtained from a female moth. They were rectangular, rounded at the ends, some 2 mm. in length, white with brown blotching, resulting in a pinkish tinge.

#### LASIOCAMPIDAE

##### *Philotherma rosa* Druce.

The larvæ of this species was found at Hilton during late summer and autumn, and adults emerged in spring and early summer. The larva is a general feeder (Taylor, 1951, 1957), and it readily accepts the foliage of wattle. Hepburn (1967) records it as an occasional pest of wattle. At Hilton it was parasitized by a species of Tachinidae, as many as 36 puparia being obtained from one host larva.

##### *Bombycopsis indecora* (Walk.)

Host-plants: *Maesa lanceolata* Forsk., *Acacia molissima*, citrus: Hilton.

The larva is of the typical "lappet" type. It is brown to grey and bark-like, with the integument finely streaked. There are transverse ridges of dense brown hairs on the thorax, as well as the usual forward-projecting and lateral tufts. The full-grown larva measures some 50 mm. in length.

Some recently hatched larvae found on citrus in early February were reared on wattle foliage which they preferred. Cocoon formation commenced on March 24 and the subsequent adults emerged between April 16 and 22. Another larva, found in May, formed its cocoon on June 9, and the adult emerged on August 6.

The thin brown and silken cocoon is found among debris, etc., on the ground. The pupa is light greyish-brown and has a finely speckled surface, with rows of hairs dorsally and laterally. The stigmata are prominent.

The egg is light grey, oval, and is heavily marked and speckled with dark brown. It measures  $1.5 \times 1$  mm.

#### ZYGAENIDAE

##### *Neurosymploca lateralis* Jordan.

Host-plant: *Maytenus heterophylla* (E. and Z.) Hilton.

The larva is green and slug-like; the surface is faintly lined longitudinally and is also speckled. There is a faint median dorsal line which is more darkly defined towards the anterior end of the body, which is blunted. Situated on the median dorsal line is a raised white marking or proturbance with red on its lateral margins. Other similar markings or proturbances, also on the median dorsal line, are situated towards the posterior end of the larva. These proturbances are pear-shaped, the narrow end pointing posteriorly. The white of these proturbances appears to be ridged and to be superimposed on dark red, which shows only at the margins. The length of the larva is 15 mm.

Larvae were plentiful on the host-plant in May. Cocoons were formed on the muslin covering the containing jar from early July to early August, and emergence took place in September.

## PYRALIDAE

*Botyodes phyllophila* Butler.

The gregarious and web-forming larvae was found in the terminal shoots of *Rapanea melanophleas* (L.) Mez., at Hilton. The adult emerged in June.

*Sylepta attenualis* Hmps.

The larva of this species—a typical leaf-roller—was found commonly on the leaves of stinging nettle at Hilton. Adults emerged in March-April from larvae obtained in January-February.

## TORTRICIDAE

*Tortrix capensana* Walk.

The larva (Taylor, 1957 and 1965) was particularly common on cultivated ivy at Hilton, rolling and feeding on the leaves. The adult was almost invariably present at light throughout the summer.

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EXPLANATION OF PLATE. Figs. 1-10, *Cymaroa leptopepla* Hmps. Fig. 1, Cocoon opened to show female and eggs,  $\times 15$ ; 2, Egg, dorsal view,  $\times 18$ ; 3, Egg, lateral view,  $\times 18$ ; 4, Larva feeding on seed-capsule of mesembrianthemum,  $\times 1.5$ ; 5, Larva, final instar, feeding,  $\times 2$ ; 6, Cocoon on host-plant,  $\times 1.5$ ; 7, Pupa, dorsal view,  $\times 2$ ; 8, Pupa, lateral view,  $\times 2$ ; 9, Adult male,  $\times 1.5$ ; 10, Adult male,  $\times 3$ ; 11, *Cyana pretoria* Distant. Adult male and female. Natural size.

Photo: H. N. Wykeham.

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